

SIX WEEKS' BOTANIZING IN VERMONT,— III.

NOTES ON THE PLANTS OF SWANTON AND VICINITY.

SIDNEY F. BLAKE.

The town of Swanton, where I collected from 16 to 30 August 1911, lies on the eastern shore of Lake Champlain about four miles below the Canadian border. Its extensive deposits of glacial sands and gravels of varying depth overlie a base of hard blue clay, and are cut here and there by masses of marble forming small hills. With the exception of a few rarities, the plants found here were much the same as those of the sandy plains about Essex Junction. In the following list of the more interesting species collected the asterisk marks those not previously recorded from the state. Altitudes are given in feet.

OSMUNDA CINNAMOMEA L. f. INCISA (Huntington) Gilbert. Damp woods, Swanton, 25 August.

O. CINNAMOMEA L. f. LATIPINNULA Blake. Edge of woods, alt. 120, Swanton, 20 August.

* O. REGALIS L. f. INTERRUPTA Milde, Monog. Osmund. 61 (1868). *O. regalis* var. *interrupta* Milde, Die Höher. Sporenpfl. 78 (1865).—Dampish ground, not long mowed, Swanton, 27 August (*Blake* 3177 part).—Fertile fronds fruiting in the middle, several terminal pairs of pinnae sterile and herbaceous, their pinnules often cut or lobed. Apparently always the result of mowing. Seen also from NEW HAMPSHIRE: Hampton Falls, 1899, *A. A. Eaton*; MASSACHUSETTS: Carlisle, 1882, *Dame*; Cambridge, 1862, *Gray*; Mansfield, 1907, *A. A. Eaton & C. W. Welch*; Stoughton, 1908, 1911, *Blake*.

L. TRISTACHYUM Pursh. Sandy woods, alt. 570, Fairfield.

THUJA OCCIDENTALIS L. Observed on one occasion on plains of pure sand, an unusual habitat, in company with *Betula populifolia*, *Myrica asplenifolia*, and other plants normally of this habitat.

SPARGANIUM AMERICANUM Nutt. Near shore of Fairfield Pond, Fairfield, alt. 550; the branched form.

S. DIVERSIFOLIUM Graebn. Muddy shore of Missisquoi River, Swanton; damp ground, alt. 135, Swanton.

SAGITTARIA ARIFOLIA Nutt. Sand flats, St. Albans Bay.

S. HETEROPHYLLA Pursh f. FLUITANS (Engelm.) Blake. Shore of Maquam Bay.

CYPERUS DENTATUS Torr. Shore of Maquam Bay.

C. DIANDRUS Torr. Bank of brook, alt. 115, Swanton, 21 August (*Blake 2995*).

C. STRIGOSUS L. f. CAPITATUS (Boeckl.) Blake. Dry sand, Swanton.

C. STRIGOSUS L. var. COMPOSITUS Britton. Shore of Maquam Bay, Swanton (*Blake 2773, 2918*).

SCIRPUS AMERICANUS Pers. Specimens taken on shore of Maquam Bay (*Blake 3184*) have a second divergent bracteal leaf 2.5 cm. long in addition to the normal upright one.

S. ATROVIRENS Muhl. f. SYCHNOCEPHALUS (Cowles) Blake. Clayey bank of Missisquoi River, Swanton; damp pasture, alt. 615, Prospect Hill, St. Albans; damp soil near brook, alt. 300, Swanton.

S. CYPERINUS var. PELIUS f. CONDENSATUS (Fernald) Blake. Common.

ERIOCAULON SEPTANGULARE With. Shore of Maquam Bay; shore of Fairfield Pond, alt. 550, Fairfield.

J. EFFUSUS L. var. SOLUTUS Fernald & Wiegand. Meadow, alt. 120, Swanton.

LILIUM TIGRINUM Ker. Along Central Vermont Railroad, St. Albans, 22 August.

BETULA ALBA L. var. MINOR (Tuckerm.) Fernald. A single tree, about eight feet high, found uprooted along the shore of Fairfield Pond, Fairfield, alt. 550, on 24 August (*Blake 3105*). The summit of Mt. Mansfield is the only other known locality in the state for this strongly marked variety.

P. AMPHIBIUM L. f. TERRESTRE (Leers) Blake. Damp woods near Charcoal Creek, Swanton; shore of Fairfield Pond, Fairfield.

RUMEX MEXICANUS Meisn. Central Vermont Railroad yard, St. Albans.

* ATRIPLEX PATULA L. var. HASTATA (L.) Gray. Railroad yards, St. Albans, 19 August (*Blake 2966*). New to the state, but clearly introduced.

* A. PATULA L. var. LITTORALIS (L.) Gray. Beach of Maquam Bay, L. Champlain, 18 August (*Blake 2933*). A plant of coastal and Great Lake range with us, now proving to occur also in the Champlain Valley like *Ammophila arenaria*, *Lathyrus maritimus*, and *Artemisia caudata*.

SALSOLA KALI L. var. TENUIFOLIA G. F. W. Mey. Three tiny plants, along Central Vermont Railroad, Swanton.

* *OXYBAPHUS FLORIBUNDUS* Chois. Along Central Vermont Railroad, Swanton, 18 August (*Blake* 2859). Determined by Mr. C. A. Weatherby.

* *ERUCASTRUM POLLICHI* Schimp. & Spenn. Two plants collected, Central Vermont Railroad yard, St. Albans, 22 August (*Blake* 3008). Second New England record; see Robinson, *RHODORA* xiii. 10 (1911).

POTENTILLA ANSERINA L. Along Central Vermont Railroad, alt. 395, St. Albans.

P. ANSERINA L. var. *SERICEA* Hayne. Shore of Maquam Bay.

P. MONSPELIENSIS L. var. *NORVEGICA* (L.) Rydb. Pasture, alt. 600, Fairfield.

* *ROSA SPINOSISSIMA* L. Pasture, alt. 675, Aldis Hill, St. Albans, 19 August (*Blake* 2938). Apparently new to the state.

* *SPIRAEA SALICIFOLIA* L. Forming thickets by roadside, alt. 260, Swanton, 24 August (*Blake* 3044). New to New England.

* *EUPHORBIA GLYPTOSPERMA* Engelm. Sand along Central Vermont Railroad, Swanton, 25 August (*Blake* 3158). New to the state, but perhaps introduced.

HIBISCUS TRIONUM L. A single plant, edge of lawn, St. Albans.

H. BOREALE (Britton) Bicknell. Shore of Maquam Bay; meadow along Charcoal Creek, Swanton; near shore of Fairfield Pond; meadowy ground, Swanton.

MYRIOPHYLLUM TENELLUM Big. Shore of Maquam Bay.

CICUTA BULBIFERA L. Plants collected near shore of Fairfield Pond were freely bulbiferous and sparingly fruiting.

GERARDIA PAUPERCULA (Gray) Britton. Gravelly beach, Maquam Bay; dampish sandy soil, Swanton, 25 August; meadowy ground, Swanton, 27 August.

G. TENUIFOLIA Vahl. Clayey bank of Missisquoi River, Swanton, alt. 125.

LINARIA MINOR (L.) Desf. Along Central Vermont Railroad, Swanton, 18 August (2860). It has been recorded from North Sheldon, only a few miles away (*RHODORA* xiv. 204 (1912)).

LONICERA TATARICA L. Pasture, Aldis Hill, St. Albans.

AMBROSIA TRIFIDA L. var. *INTEGRIFOLIA* (Muhl.) T. & G. Central Vermont Railroad yard, St. Albans.

* *BIDENS DISCOIDEA* (T. & G.) Britton. Shore, Maquam Bay, Swanton, 20 August (*Blake* 2985). A species hitherto known as of coastal plain range from eastern Massachusetts southward and westward, whose occurrence in the Champlain Valley is of much interest.

* *PRENANTHES RACEMOSA* Mx. One or two plants along Central Vermont Railroad, Swanton, 25 August (*Blake* 3156). Perhaps introduced.

STOUGHTON, MASSACHUSETTS.

PLURALITY OF SEEDS IN ACORNS OF *QUERCUS PRINUS*.

CHARLES PIPER SMITH.

A LITTLE more than a year ago my colleague, Mr. B. W. Anson, brought me an interesting acorn of the chestnut oak, *Quercus Prinus* L. Two hypocotyls were protruding from the apical end of this nut and dissection brought to light two perfect seeds. Mr. Anson had been attracted by the large size of the acorns and was much surprised to find many of them with two sprouts in evidence. As he had never seen or heard of two-seeded acorns, he brought the matter to my attention.

My interest was aroused at once, both because of the size and weight of the nuts, and because my attention had been called, but a few days before, to a two-seeded acorn of *Q. alba* L. discovered by one of my students.

Following directions furnished by Mr. Anson, I soon visited the locality of the chestnut oaks, two miles east of College Park, and found, presumably, the very trees from which came his specimens. I proceeded to collect all the two-seeded acorns I could find under the two trees and the final count gave the number of fifty-four. Several one-seeded nuts, almost as large as the two-seeded ones, were also collected, and four three-seeded ones added more interest to the case. Almost all the acorns had germinated at this date, Nov. 17th., the few unsprouted specimens found being evidently defective and incapable of germination. Many of the sprouting acorns were lying uncovered on the surface of the ground, though few thus exposed had the radicle penetrating the soil.

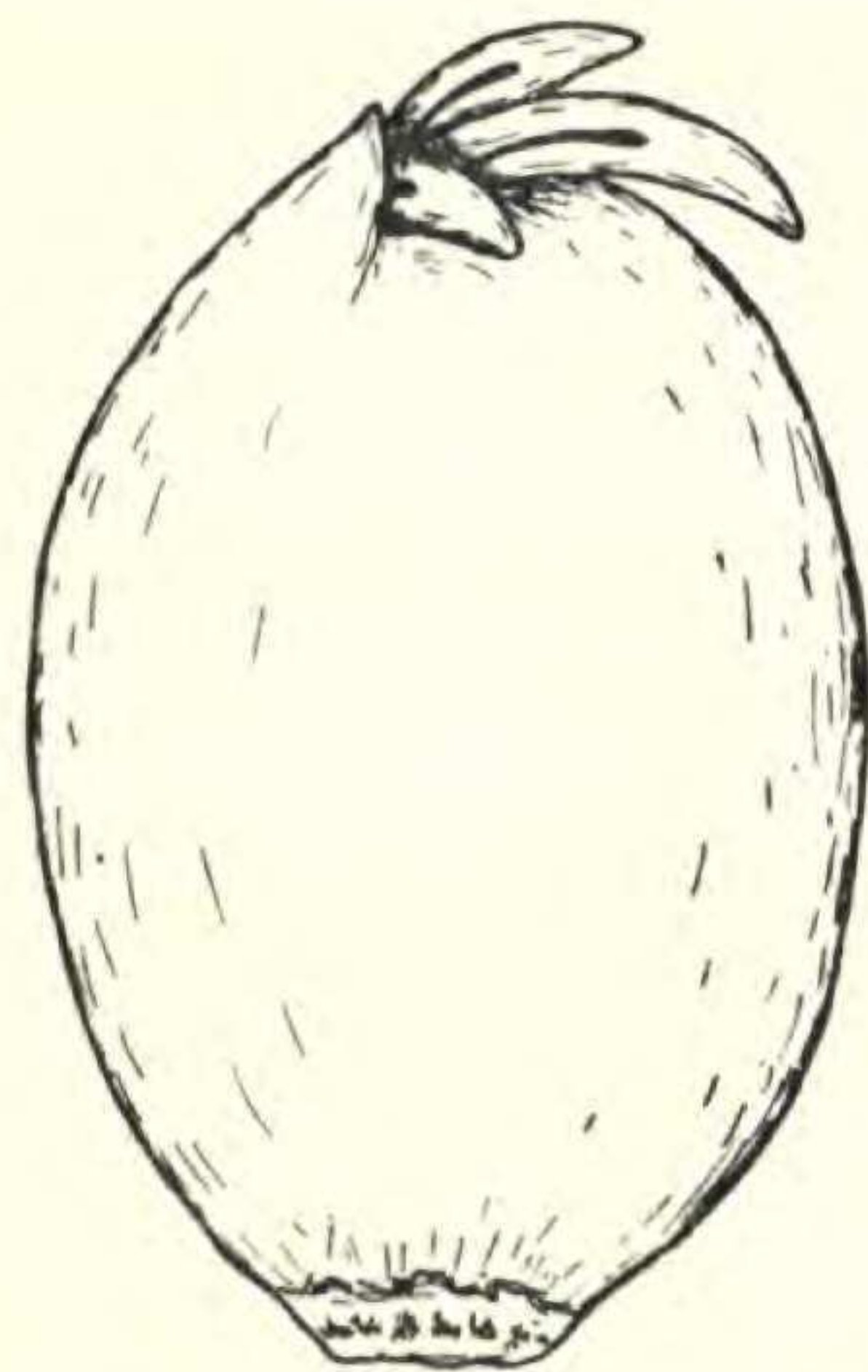


Fig. 1. A 3-seeded acorn with 3 hypocotyls emerging at apex.